

IN THE CLAIMS

Please amend the claims as follows:

Clam 1 (Currently Amended): A method, implemented on an apparatus for processing a digital audio signal, of processing a digital audio signal, comprising:
spectrally-encoded spectrally encoding, at the apparatus, the digital audio signal to generate comprising audio band data components representing audio contributions of said digital audio signal in respective ones of a set of frequency bands;~~said method comprising:~~

spectrally encoding, at the apparatus, a watermark audio signal using the same encoding as that applied to the digital audio signal, to generate watermark band data components representing audio contributions of said watermark audio signal in respective ones of said set of frequency bands;

altering, at the apparatus, a subset comprising one or more of said audio band data components by combining or replacing one or more of said audio band data components with corresponding ones of said watermark band data components from a spectrally-encoded digital audio watermark signal, multiplied by a scaling factor, to produce a band-altered digital audio signal having altered band data components;

generating, at the apparatus, recovery data to allow original values of said altered band data components to be reconstructed;

encrypting, at the apparatus, said recovery data; and

storing, at the apparatus, results of the altering said band-altered digital audio signal and said encrypted recovery data in a physical memory unit.

Claim 2 (Canceled).

Claim 3 (Currently Amended): A method according to claim 1, in which said recovery data comprises said subset of said audio band data components.

Claims 4 and 5 (Canceled).

Claim 6 (Currently Amended): A method according to claim 1, in which said subset of said audio band data components is a predetermined subset of said audio band data components.

Claim 7 (Currently Amended): A method according to claim 1, in which said recovery data defines which of said audio band data components are in said subset of said audio band data components.

Claim 8 (Currently Amended): A method according to claim 1, further comprising:
detecting which of said watermark band data components of said watermark audio signal are most significant over at least a portion of said watermark audio signal, said most significant watermark band data components forming said subset of said audio band data components.

Claim 9 (Currently Amended): A method according to claim 8, in which said detecting further comprises:

detecting which of said watermark band data components of said watermark audio signal are most significant over the entirety of said watermark audio signal.

Claim 10 (Currently Amended): A method according to claim 8, in which said watermark audio signal and said digital audio signal are each encoded as successive data frames representing respective time periods of said watermark audio signal and said digital audio signal, and said detecting further comprises:

detecting which of said watermark band data components of said watermark audio signal are most significant over a group of one or more of said data frames of said watermark audio signal, said most significant watermark band data components forming said subset of said audio band data components in respect of a corresponding group of one or more frames of said digital audio signal.

Claim 11 (Currently Amended): A method according to claim 1, further comprising:

detecting which of said watermark band data components of said watermark audio signal are most significant over at least a portion of said watermark audio signal, said most significant watermark band data components forming said subset of said audio band data components.

Claim 12 (Currently Amended): A method according to claim 11, in which said detecting further comprises:

detecting which of said watermark band data components of said watermark audio signal are most significant over the entirety of said watermark audio signal.

Claim 13 (Currently Amended): A method according to claim 11, in which said watermark audio signal and said digital audio signal are each encoded as successive data frames representing respective time periods of said watermark audio signal and said digital audio signal, and said detecting further comprises:

detecting which of said watermark band data components of said watermark audio signal are most significant over a group of one or more of said data frames of said watermark audio signal, said most significant watermark band data components forming said subset of said audio band data components in respect of a corresponding group of one or more frames of said digital audio signal.

Claim 14 (Currently Amended): A method according to claim 1, further comprising:

detecting which of said watermark band data components of said watermark audio signal differ most significantly from corresponding audio band data components of said digital audio signal over at least corresponding portions of said watermark audio signal and said digital audio signal, said most significantly differing watermark band data components forming said subset of said audio band data components.

Claim 15 (Canceled).

Claim 16 (Currently Amended): A method according to claim 7, in which said audio band data components forming said subset of said audio band data components are defined by a pseudo-random function.

Claim 17 (Currently Amended): A method according to claim 1, in which said digital audio signal is stored in a data format having at least:

format-defining data specifying a quantity of data available to store said digital audio signal;

said audio band data components; and

zero or more ancillary data space.

Claim 18 (Previously Presented): A method according to claim 17, further comprising storing said recovery data in said ancillary data space.

Claim 19 (Previously Presented): A method according to claim 17, further comprising altering said format-defining data to specify a larger quantity of data to store said digital audio signal, thereby increasing the size of said ancillary data space.

Claim 20 (Previously Presented): A method according to claim 1, further comprising appending said recovery data to said band-altered digital audio signal.

Claim 21 (Currently Amended): A method according to claim 1, further comprising adjusting the number of said audio band data components in said subset of said audio band data components in accordance with the data capacity available for said recovery data.

Claims 22-23 (Canceled).

Claim 24 (Previously Presented): A method of distributing spectrally-encoded audio content material, said method comprising:

processing said spectrally-encoded audio content material in accordance with the method of claim 1 to form a band-altered digital signal and recovery data;

encrypting said recovery data to form encrypted recovery data;

supplying said band-altered digital signal and said encrypted recovery data to a receiving user; and

supplying a decryption key, to said receiving user to allow said receiving user to decrypt said encrypted recovery data.

Claim 25 (Previously Presented): A method according to claim 24, wherein said supplying takes place only if a payment is received from said receiving user.

Claims 26-27 (Canceled).

Claim 28 (Currently Amended): A computer readable storage medium containing program instructions for execution on a computer, which when executed by the computer, cause the computer to perform [[the]] a method comprising: recited in claim 1

spectrally encoding the digital audio signal to generate audio band data components representing audio contributions of said digital audio signal in respective ones of a set of frequency bands;

spectrally encoding a watermark audio signal using the same encoding as that applied to the digital audio signal, to generate watermark band data components representing audio contributions of said watermark audio signal in respective ones of said set of frequency bands;

altering a subset comprising one or more of said audio band data components by combining or replacing one or more of said audio band data components with corresponding ones of said watermark band data components, to produce a band-altered digital audio signal having altered band data components;

generating, at the apparatus, recovery data to allow original values of said altered band data components to be reconstructed;

encrypting said recovery data; and

storing said band-altered digital audio signal and said encrypted recovery data in a physical memory unit.

Claims 29-35 (Canceled).

Claim 36 (Currently Amended): An apparatus for processing a digital audio signal, comprising:

~~a spectrally-encoded~~ an encoder which spectrally encodes the digital audio signal ~~comprising to generate audio~~ band data components representing audio contributions of said audio signal in respective ones of a set of frequency bands and separately spectrally encodes a watermark audio signal using the same encoding as that applied to the digital audio signal, to generate watermark band data components representing audio contributions of said watermark audio signal in respective ones of said set of frequency bands; ~~said apparatus comprising:~~

a data modifier configured to ~~modify~~ alter a subset comprising one or more of said audio band data components by combining or replacing one or more of said audio band data components with corresponding ones of said watermark band data components ~~from a spectrally-encoded digital audio watermark signal, multiplied by a scaling factor,~~ to produce a band-altered digital audio signal having altered band data components;

a data generator for generating recovery data to allow ~~[[the]]~~ original values of said subset of said band data components to be reconstructed;

an encryption unit which encrypts said recovery data; and

a memory unit being configured to store the band-altered digital audio signal and said encrypted recovery data ~~output of the data modifier.~~

Claims 37-42 (Canceled).

Claim 43 (New): A computer readable storage medium storing a band-altered digital audio signal having altered band data components and recovery data to allow original values of said altered band data components to be reconstructed, wherein

the band-altered digital audio signal is produced from

a spectrally encoded digital audio signal which generates audio band data components representing audio contributions of a digital audio signal in respective ones of a set of frequency bands,

a spectrally encoded watermark audio signal which was spectrally encoded using the same encoding as that applied to the digital audio signal, and which generates watermark band data components representing audio contributions of said watermark audio signal in respective ones of said set of frequency bands, and

the band-altered digital audio signal is produced by altering a subset comprising one or more of said audio band data components by combining or replacing one or more of said audio band data components with corresponding ones of said watermark band data components, and

the recovery data is encrypted.